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| APPLICATION NO.                  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------|-------------|----------------------|---------------------|------------------|
| 10/500,104                       | 06/25/2004  | Tsuyoshi Nishimoto   | 62533.00015         | 2743             |
| 32294                            | 7590        | 12/31/2007           | EXAMINER            |                  |
| SQUIRE, SANDERS & DEMPSEY L.L.P. |             |                      | SPAHN, GAY          |                  |
| 14TH FLOOR                       |             |                      | ART UNIT            |                  |
| 8000 TOWERS CRESCENT             |             |                      | PAPER NUMBER        |                  |
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|                                  |             |                      | MAIL DATE           | DELIVERY MODE    |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                               |                                  |  |
|------------------------------|-------------------------------|----------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/500,104 | Applicant(s)<br>NISHIMOTO ET AL. |  |
|                              | Examiner<br>Gay Ann Spahn     | Art Unit<br>3635                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,5-8 and 12-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>25 June 2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The examiner apologizes that in her Office Action mailed 29 June 2007 she inadvertently failed to deal with the foreign patent documents and other references on the information disclosure statement (IDS) submitted on 25 June 2005 by either initialing or lining through those documents. Although the submission was in compliance with the provisions of 37 CFR 1.97 and accordingly, the examiner did consider the information disclosure statement filed on 25 June 2005, she had meant to line through the first three items listed in the "Foreign Patent Documents" section (namely, Japanese Patent Application Publication No. JP 4-179762 A, Japanese Patent Application Publication No. JP 2000-352122 A, and Japanese Patent Application Publication No. JP 9-268650 A) and the one item in the "Other References" section (namely, the Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 59348/1989 (Laid-Open No. 150323/1990)) as failing to comply with 37 C.F.R. § 1.98(a)(2)(i) and (iv) because no "legible copy" of the three foreign patent documents and of the item listed in the "Other References" section, respectively, was included with filing of the information disclosure statement or IDS. Therefore, the examiner is vacating her previous acknowledgment of the filing of the information disclosure statement or IDS on 25 June 2005 and is again attaching a copy of the Form-PTO-1449 included with the information disclosure statement or IDS filed

25 June 2005, and which present Form-PTO-1449 has all references either initialed or lined through and is signed and dated.

### ***Drawings***

The drawings are objected to because:

- (1) Fig. 8, reference character "A" should have lead line leading from it to the arrow;
- (2) Fig. 49(a), reference characters "H" and "I" should have lead line leading from them to the arrow they represent;
- (3) Fig. 53(a), the directional arrows from angle iron 150 should be given a reference numeral and explained in the specification; and
- (4) Fig. 64, reference character "P" should have lead line leading from it to the arrow.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "K" has been used to designate both "the floor or ground" in Figs. 48(a)-(c) and "the upwards direction" in Fig. 49(a). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities:

(1) page 13 of the "Response Under 37 CFR § 1.111" filed on 24 September 2007, last line, "XI(A)" should be changed to --XI(b)--;

(2) page 14 of the "Response Under 37 CFR § 1.111" filed on 24 September 2007, third to last line, "an across" should be changed to --a cross--; and

(3) page 17 of the "Response Under 37 CFR § 1.111" filed on 24 September 2007, fifth to last line, "expanded" should be changed to --enlarged-- and "XI(B)" should be changed to --XI(b)--.

Appropriate correction is required.

### ***Claim Objections***

**Claims 1 and 10 are objected to because of the following informalities:**

(1) **claim 1**, line 9, after the word "using", the word --a-- should be inserted for proper grammar;

(2) **claim 10**, lines 1-2, the recitation that "the node members are column-shaped" is not understood because columns can have all different shaped and the examiner suggests amending to --cylindrical-- if that is what Applicants are trying to say; and

(3) **claim 10**, lines 5-6, the recitation of "and nodes are formed by press fitting the linking end parts into the linking grooves" is not understood because "node members" have already been recited and it is not clear how the "nodes" relate to the "node members" so that the examiner suggests that "nodes" be changed to --the node members--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1, 4, and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

**Claim 1**, lines 1-2, the recitation of "a pair of right and left stringers comprised of truss structural members; and treads" is vague, indefinite, and confusing because it is not clear if each of the left and right stringers are comprised of one truss structural member or more than one truss structural member and one tread or more than one tread and the examiner suggests amending to --a left stringer and a right stringer, wherein each of the left and right stringers is comprised of a truss structural member and at least one tread--.

**Claim 1**, lines 3-4, the recitation of "an upper chord member and a lower chord member having node members and which are inclined with the slope of the staircase" is vague, indefinite, and confusing because it is not clear if each of the upper chord member and the lower chord member has the node members or only the lower chord member has the node members and it is not clear if the chord members are inclined with the slope of the staircase or the node members are inclined with the slope of the staircase and the examiner suggests amending to --upper and lower chord members each having at least one node member, wherein each of the upper and lower chord members are inclined with the slope of the staircase--.

**Claim 1**, line 8, the recitation that "at each riser height" is vague, indefinite, and confusing as lacking antecedent basis since no risers have been introduced and therefore, it is not clear what is meant by "at each riser height".

**Claim 1**, lines 9-10, the recitation that "the support member is fixed to the upper chord members using bolt through holes provided in the node members of the upper chord member" is vague, indefinite, and confusing because it is not clear if a single bolt goes through one hole in one node for each of the upper and lower chord members.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 4, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by SETON (U.K. Patent Application Publication No. GB 2 083 098 A).**

**As to claim 1, SETON discloses a staircase (10) comprised of:**

a pair of right and left stringers (side frames 11, 11) comprised of truss structural members (upper chord 16 comprised of 16a, 16b, etc.; lower chord 17 comprised of 17a, 17b, etc.; and bracing members 18, 18, etc.); and  
treads (12, 12, etc.),

wherein the truss structural members are each comprised of:



an upper chord member (16) and a lower chord member (17) having node members (ends of 16, 17 as shown in Fig. 3 since [www.dictionary.com](http://www.dictionary.com) defines the word "node" as "a centering point of component parts") and the upper and lower chord members (16, 17) being inclined with the slope of the staircase (10); and

a plurality of lattice members (18, 18) for linking the upper chord member (16) and the lower chord member (17) using the node members (ends of 16, 17),

wherein each tread (12, 12) is supported on the upper chord members (16, 16) via a support member (13) which is laid horizontally at each riser height, and

wherein the support member (13) is fixed to the upper chord members (16, 16) using bolt (unnumbered bolts through unnumbered nuts) through holes (21, 22 as shown in 16, 17 in Fig. 3) provided in the node members (ends of 16, 17) of the upper chord members (16, 16).

**As to claim 4, SETON** discloses the staircase according to claim 1 as discussed above, and **SETON** also discloses that the truss structural members (16/17/18) are linked to each other via a plurality of the supporting members (13, 13).

**As to claim 9, SETON** discloses the staircase according to claim 1 as discussed above, and **SETON** also discloses that the upper chord member (16) and the lower chord member (17) are each comprised of the node members (ends of 16, 17); and

frame members (16a, 16b, etc.; 17a, 17b, etc.) for linking adjacent node members (ends of 16, 17).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over**

**SETON (U.K. Patent Application Publication No. 2 083 098 A) in view of**

**FENTIMAN '467 (U.S. Patent No. 2,931,467).**

**As to claim 10, SETON discloses the staircase of claim 9 as discussed above.**

**SETON fails to explicitly disclose that the node members are column-shaped and each have linking grooves on an outer surface thereof; the frame members each have linking end parts on both ends; and the linking grooves and the linking end parts have notches to be engaged with each other, and nodes are formed by press fitting the linking end parts into the linking grooves.**

**FENTIMAN '467 discloses that the node members (1/1a) are column-shaped and each have linking grooves (3/3a) on an outer surface thereof; the frame members (5/5a) each have linking end parts (6/6a) on both ends; and the linking grooves (3/3a) and the linking end parts (5/5a) have notches (4/4a, 7/7a) to be engaged with each other, and nodes (1/1a) are formed by press fitting the linking end parts (6/6a) into the linking**

grooves (3/3a). The examiner notes that at col. 1, lines 15-19, FENTIMAN '467 states that "[t]his invention relates to improvements in structural framework and appertains particularly to a novel rod and socket coupling useable in the fabrication or construction of scaffolds, trusses, bridges, walls, roofs, towers and like structures." (Emphasis added).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the staircase of SETON by making the node members be column-shaped and each have linking grooves on an outer surface thereof, the frame members each have linking end parts on both ends, and the linking grooves and the linking end parts have notches to be engaged with each other so that the node members are formed by press fitting the linking end parts into the linking grooves as taught by FENTIMAN '467 in order to form a staircase stringer that is easily taken up and put together, yet strong.

**Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over SETON (U.K. Patent Application Publication No. 2 083 098 A) in view of COX '838 (U.S. Patent No. 3,962,838).**

**As to claim 11, SETON discloses the staircase of claim 9 as discussed above.**

**SETON fails to explicitly disclose a reinforcing member arranged along at least one of the upper chord member and the lower chord member, the reinforcing member being fixed with at least three or more of the node members.**

COX '838 discloses a staircase (20 of Fig. 1b) having left and right stringers (left and right 38/40/44) each with upper and lower chords (38, 40), wherein a reinforcing member (40' for lower chord 40 as shown in Fig. 1a) is arranged along at least one of the upper chord member (38) and the lower chord member (40), the reinforcing member (40') being fixed (via bolts 54 and nuts 56) with at least three or more of the node members (centering points of upper chord 38, lower chord 40, and lattice members 44 having holes 42, 46 and slots 48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the staircase of SETON by including a reinforcing member is arranged along at least one of the upper chord member and the lower chord member, the reinforcing member being fixed with at least three or more of the node members as taught by COX '838 in order to make the upper chord or the lower chord of the staircase stringer stronger by linking together the separate members of either the upper chord or the lower chord.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 4, and 9-11 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patents cited of interest include: U.S. Patent No. 3,275,351 to Fentiman; U.S. Patent No. 5,356,234 to Vangool; U.S. Patent Nos. 6, 237,298, 6,009,914, 6,286,282, 5,867,961, 5,924,258, and 6,321,502 all to Castano; U.S. Patent No. 3,885,365 to Cox; U.S. Patent No. 3,601,221 to Fuentes; U.S. Patent No. 4,406,347 to Stathopoulos; and U.S. Patent No. 3,626,438 to Cornell.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gay Ann Spahn whose telephone number is (571)-272-7731. The examiner can normally be reached on Monday through Friday, 10:30 am to 7:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard E. Chilcot can be reached on (571)-272-6777. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

<sup>GAS</sup>  
Gay Ann Spahn, Patent Examiner  
December 22, 2007

LANNA MAI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

